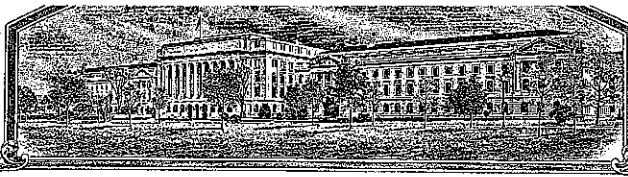


No.

200100278



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Monsanto Company*

*Whereas*, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

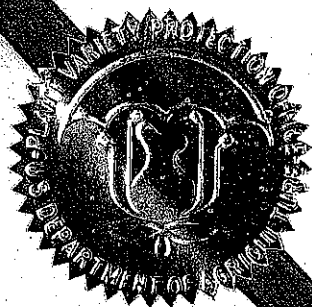
NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE SEED. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Knudson'

*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this second day of April, in the year two thousand two.*

*Attest:*



*Paul M. Jankel*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*W. H. H. H. H.*

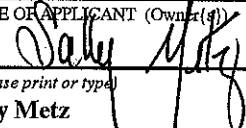
Secretary

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the privacy Act of 1974 (5 U.S.C. 552a)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421) Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) <b>Monsanto Company</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER <b>N96-0144</b>		3. VARIETY NAME <b>Knudson</b>	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) <b>700 Chesterfield Parkway North St. Louis, Missouri 63198</b>		5. TELEPHONE (include area code) <b>636-737-6089</b>		PVPO NUMBER <b>200100278</b>	
		6. FAX (include area code) <b>636-737-7250</b>		DATE <b>9/7/2001</b>	
7. GENUS AND SPECIES NAME <b><u>Triticum aestivum</u></b>		8. FAMILY NAME (Botanical) <b>Gramineae</b>		FILING AND EXAMINATION FEE <b>9/7/2001</b>	
9. CROP KIND NAME (common name) <b>Hard Red Spring Wheat</b>				DATE <b>2705.00</b>	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (common name) <b>Corporation</b>				CERTIFICATION FEE <b>320.00</b>	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>Delaware</b>		12. DATE OF INCORPORATION <b>1933</b>		DATE <b>1/28/02</b>	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS <b>Ms. Sally Metz</b> <b>700 Chesterfield Parkway North</b> <b>St. Louis, Missouri 63198</b>				14. TELEPHONE (include area code) <b>Dr. Rollin Sears</b> <b>6515 Ascher Road</b> <b>Junction City, Kansas 66441</b>	
				15. FAX (include area code)	
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (follow instructions on reverse)					
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety					
b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness					
c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety					
d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety					
e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership					
f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds, or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)					
g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)					
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)					
<input checked="" type="checkbox"/> YES (if "yes", answer items 18 and 19 below) <input type="checkbox"/> NO (if "no", go to item 20)					
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER GENERATIONS?					
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDERS SEED?					
<input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED					
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?					
<input type="checkbox"/> YES (if "YES", give names of countries and dates) <input checked="" type="checkbox"/> NO					
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.					
The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.					
Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT (Owner(s)) 			SIGNATURE OF APPLICANT (Owner(s))		
NAME (Please print or type) <b>Sally Metz</b>			NAME (Please print or type)		
CAPACITY OR TITLE <b>Director Wheat Technology</b>		DATE <b>7-3-01</b>		CAPACITY OR TITLE	
				DATE	

## ***Exhibit A.***

### ***Origin and Breeding History of Knudson***

Knudson originated from the cross "Karl/Krona//N90-0669" which was made in Berthoud, CO during the spring crossing session of 1992. N90-0669 was an AgriPro hard red spring experimental line. Its pedigree was "Bergen/Hamer sib". Single heads were selected from the F2 population of this line at Berthoud during the 1993 season. Selections were based on height and leaf rust resistance. Single seed descent was used to advance these selections through the F3 and F4 generations in the Berthoud greenhouse during the fall and winter of 1993-94. F5 headrows of these selections were planted at East Grand Forks, MN in 1994 where they were further screened for height, straw strength, foliar diseases, leaf rust and stem rust. Selected F5 headrows were individually bulk harvested. F6 increase plots were grown at Berthoud and observation plots were grown at Casselton, ND and E. Grand Forks, MN in 1995. These lines were further screened on the previously mentioned traits as well as breadmaking quality. The experimental designation of N96-0144 was assigned to one of these lines which was yield tested in AgriPro nurseries in North Dakota and Minnesota during the 1996 through 2000 seasons. This line has been tested in the Northern Uniform Regional Nursery in 1999 and 2000.

In 1998, 76 headrows were grown in Berthoud, Colorado. Sixty-six headrows with uniform appearance were harvested and planted as a 0.2 acre initial Breeders seed increase in 1999. In 2000, a three acre Breeders seed increase was grown in Berthoud, Colorado which produced 7,407 pounds of Breeders seed.

Knudson has been uniform and stable since 1999. About 0.1% of the plants were rogued from the initial Breeder's Seed increase in 1999. Approximately 70% of the rogued variant plants were taller height wheat plants (5 to 15 cm.) and approximately 20% were awnletted wheat plants. Up to 0.2% variant plants may be encountered in subsequent generations.

***Exhibit B.***  
***Statement of Distinctness***

Knudson is most similar to the hard red spring wheat 'Hamer'. However, it can be easily distinguished by the following morphological characteristics:

- Knudson has an erect flag leaf at boot stage ( Berthoud, Colorado 1999 and 2000).). Hamer has a recurved flag leaf at boot stage (Berthoud, Colorado 1999 and 2000).
- Knudson has a narrow glume width (Berthoud, Colorado 1999 and 2000). Hamer has a medium glume width (Berthoud, Colorado 1999 and 2000).
- Knudson has a tapering head shape (Berthoud, Colorado 1999 and 2000). Hamer has a strap (Berthoud, Colorado 1999 and 2000).

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE DIVISION  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY  
WHEAT (*Triticum* Spp.)

NAME OF APPLICANT(S) <b>Monsanto Company</b>	FOR OFFICIAL USE ONLY
	PVPO NUMBER <b>200100278</b>
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) <b>700 Chesterfield Parkway North St. Louis, Missouri 63198</b>	NAME OR EXPERIMENTAL DESIGNATION <b>Knudson</b>

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized standard may be used to determine plant colors; designate system used.

Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

1=Common 2=Durum 3=Club 4=Other (specify) \_\_\_\_\_

2. VERNALIZATION:

1=Spring 2=Winter 3=Other (specify) \_\_\_\_\_

3. COLEOPTILE ANTHOCYANIN:

1=Absent 2=Present

4. JUVENILE PLANT GROWTH:

1=Prostrate 2=Semi-erect 3=Erect

5. PLANT COLOR (boot stage):

1 = Yellow-Green 2 = Green 3 = Blue-Green

6. FLAG LEAF (boot stage):

1 = Erect 2 = Recurved

1 = Not Twisted 2 = Twisted

7. EAR EMERGENCE:

Number of Days Earlier Than Verde \*

Number of Days Later Than \_\_\_\_\_ \*

8. ANTHER COLOR:

1 = YELLOW 2 = PURPLE

9. PLANT HEIGHT (from soil to top of head, excluding awns):

cm Taller Than \_\_\_\_\_ \*

cm Shorter Than Verde \*

\* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

## 10. STEM:

## A. ANTHOCYANIN

**1** 1= Absent 2=Present

## B. WAXY BLOOM

**2** 1=Absent 2=Present

C. HAIRINESS (*last internode of rachis*)

**2** 1=Absent 2=Present

D. INTERNODE (*specify number*)

**1** 1=Hollow 2=Semi-solid 3=Solid

## E. PEDUNCLE

**1** 1=Erect 2=Recurved

**2** **1** cm Length

11. HEAD (*at Maturity*):

## A. DENSITY

**2** 1=Lax 2=Middense 3= Dense

## B. SHAPE

**1** 1 = Tapering 2= Strap 3 = Clavate 4 = Other (*specify*)

## C. CURVATURE

**2** 1 = Erect 2 = Inclined 3 = Recurved

## D. AWNEDNESS

**4** 1 = Awnless 2 = Apically Awnletted 3 = Awnletted 4 = Awned

12. GLUMES (*at Maturity*):

## A. COLOR

**1** 1 = White 2 = Tan 3 = Other (*specify*)

## B. SHOULDER

**2** 1 = Wanting 2 = Oblique 3 = Rounded 4 = Square 5 = Elevated 6 = Apiculate

## C. BEAK

**3** 1 = Obtuse 2 = Acute 3 =Acuminate

## D. LENGTH

**2** 1 = Short (ca. 7mm) 2 = Medium (ca. 8mm) 3 = Long (ca. 9mm)

## E. WIDTH

**1** 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm) 3 = Wide (ca. 4mm)

## 13. SEED:

## A. SHAPE

**1** 1 = Ovate 2 = Oval 3 = Elliptical

## B. CHEEK

**1** 1=Rounded 2=Angular

## C. BRUSH

**2** 1=Short 2=Medium 3=Long

**1** 1 = Not Collared 2 = Collared

## D. CREASE

**1** 1 = Width 60% or less of Kernel  
2 = Width 80% or less of Kernel  
3 = Width Nearly as Wide as Kernel

**1** 1 = Depth 20% or less of Kernel  
2 = Depth 35% or less of Kernel  
3 = Depth 50% or less of Kernel

## 13. SEED: (continued)

## E. COLOR

☒ 3      1 = White      2 = Amber      3 = Red      4 = Other (*specify*) \_\_\_\_\_

## F. TEXTURE

☒ 1      1=Hard      2=Soft

G. PHENOL REACTION (*see instructions*):

☒ 0      1 = Ivory      2 = Fawn      3 = Light Brown      4 = Dark Brown      5 = Black

## 14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

<input checked="" type="checkbox"/> 3      Stem Rust ( <i>Puccinia graminis</i> f. sp. <i>tritici</i> ) Field races	<input checked="" type="checkbox"/> 3      Leaf Rust ( <i>Puccinia recondita</i> f. sp. <i>tritici</i> ) Field races
<input checked="" type="checkbox"/> 0      Stripe Rust ( <i>Puccinia striiformis</i> )	<input checked="" type="checkbox"/> 0      Loose Smut ( <i>Ustilago tritici</i> )
<input checked="" type="checkbox"/> 0      Tan Spot ( <i>Pyrenophora tritici-repentis</i> )	<input checked="" type="checkbox"/> 0      Flag Smut ( <i>Urocystis agropyri</i> )
<input checked="" type="checkbox"/> 0      Halo Spot ( <i>Selenophoma donacis</i> )	<input checked="" type="checkbox"/> 0      Common Bunt ( <i>Tilletia tritici</i> or <i>T. laevis</i> )
<input checked="" type="checkbox"/> 0 <i>Septoria nodorum</i> (Glume Blotch)	<input checked="" type="checkbox"/> 0      Dwarf Bunt ( <i>Tilletia controversa</i> )
<input checked="" type="checkbox"/> 0 <i>Septoria avenae</i> (Speckled Leaf Disease)	<input checked="" type="checkbox"/> 0      Karnal Bunt ( <i>Tilletia indica</i> )
<input checked="" type="checkbox"/> 0 <i>Septoria tritici</i> (Speckled Leaf Blotch) Field races	<input checked="" type="checkbox"/> 0      Powdery Mildew ( <i>Erysiphe graminis</i> f. sp. <i>tritici</i> ) Field races
<input checked="" type="checkbox"/> 0      Scab ( <i>Fusarium</i> spp.)	<input checked="" type="checkbox"/> 0      Snow Molds
<input checked="" type="checkbox"/> 0      Black Point (Kernel Smudge)	<input checked="" type="checkbox"/> 0      Common Root Rot ( <i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.)
<input checked="" type="checkbox"/> 0      Barley Yellow Dwarf Virus (BYDV)	<input checked="" type="checkbox"/> 0      Rhizoctonia Root Rot ( <i>Rhizoctonia solani</i> )
<input checked="" type="checkbox"/> 0      Soilborne Mosaic Virus (SBMV) Field races	<input checked="" type="checkbox"/> 0      Black Chaff ( <i>Xanthomonas campestris</i> pv. <i>translucens</i> )
<input checked="" type="checkbox"/> 0      Wheat Yellow (Spindle Streak) Mosaic Virus Field races	<input checked="" type="checkbox"/> 0      Bacterial Leaf Blight ( <i>Pseudomonas syringae</i> pv. <i>syringae</i> )
<input checked="" type="checkbox"/> 0      Wheat Streak Mosaic Virus (WSMV) Field races	<input type="checkbox"/> Other ( <i>specify</i> ) _____
<input type="checkbox"/> Other ( <i>specify</i> ) _____	<input type="checkbox"/> Other ( <i>specify</i> ) _____
<input type="checkbox"/> Other ( <i>specify</i> ) _____	<input type="checkbox"/> Other ( <i>specify</i> ) _____
<input type="checkbox"/> Other ( <i>specify</i> ) _____	<input type="checkbox"/> Other ( <i>specify</i> ) _____

15. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

<input type="checkbox"/> 0	Hessian Fly ( <i>Mayetiola destructor</i> )	<input type="checkbox"/>	Other (specify)
<input type="checkbox"/> 0	Stem Sawfly ( <i>Cephus</i> spp.)	<input type="checkbox"/>	Other (specify)
<input type="checkbox"/> 0	Cereal Leaf Beetle ( <i>Oulema melanopa</i> )	<input type="checkbox"/>	Other (specify)
<input type="checkbox"/> 0	Russian Aphid ( <i>Diuraphis noxia</i> )	<input type="checkbox"/>	Other (specify)
<input type="checkbox"/> 0	Greenbug ( <i>Schizaphis graminum</i> )	<input type="checkbox"/>	Other (specify)
<input type="checkbox"/> 0	Aphids		

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

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***Exhibit D.***  
***Additional Description of Knudson***

Knudson is a hard red spring wheat bred and developed by AgriPro Wheat. It has medium-early maturity and very good test weight. It is a tall semidwarf with moderately strong straw. It has good protection to the prevalent races of leaf rust and stem rust and to foliar diseases. Knudson has intermediate protein levels and satisfactory breadmaking characteristics.

Juvenile growth habit is erect. Seedling anthocyanin is present. Plant color at boot stage is green. Auricle anthocyanin and auricle hairs are present. Flag leaf at boot stage is erect and twisted. Waxy bloom is present on the head, stem and flag leaf sheath. Anther color is yellow. Head shape is tapering and awned. Glumes are glabrous, narrow in width and medium in length with oblique shoulders and acuminate beaks. Seed shape is ovate. Brush hairs are medium in size. Seed crease depth is shallow and width is narrow. Seed cheeks are rounded.

Knudson is broadly adapted to the spring wheat growing areas of North Dakota, South Dakota, Minnesota and Montana.

AGRIPRO WHEAT  
HARD RED SPRING

Year	labno	Variety	LOC	Wht 14%MB	Flr Prot 14%MB	Flr Yld %	Ash	Peak Time min	Peak Ht	TOL	Norris Hard	Bake Absor %	Bake Mixtime min	Loaf Vol CC	Grain R	Tex R	Color R
2000	4038	KNUDSON	MW	12.9	12.1	72.3	0.39	5.50	5.25	1367	81	65.0	5.50	1000	3	3	4
1999	4024	KNUDSON	MW	13.0	11.9	71.9	0.44	6.00	5.00	1352	85	65.0	6.00	835	3	2	2
1998	4033	KNUDSON	MW	13.2	12.2	73.0	0.44	5.50	5.25	1200	77	66.0	6.00	985	3	3	3
1997	4076	KNUDSON	MW	12.2	11.3	72.4		5.00	5.30	1227	80	66.0	5.00	1235	3	2	2
1996	4321	KNUDSON	PR		14.5			4.25	5.80	1020	179	67.0					
		Average		12.8	12.4	72.4	0.42	5.67	5.17	1306	81	65.3	5.63	1014	3.0	2.5	2.8
2000	4031	IVAN	MW	12.1	11.0	71.0	0.41	3.50	4.75	1150	61	60.0	3.50	980	4	4	3
1999	4007	IVAN	MW	12.2	11.1	72.0	0.4	4.50	4.25	1099	71	62.0	4.50	840	4	1	2
1998	4007	IVAN	MW	12.7	11.7	73.6	0.45	3.50	5.00	996	73	62.0	3.75	1000	5	3	3
1997	4009	IVAN	MW	11.4	10.5	74.9	0.51	3.00	4.80	1157	65	61.0	3.00	1020	4	4	3
1996	4015	IVAN	PR	14.9	13.7	72.4	0.43	3.00	5.00	1027	82	66.0	2.50	875	5	3	4
		Average		12.7	11.6	72.8	0.44	3.50	4.76	1086	70	62.2	3.45	943	4.4	3.0	3.0
2000	4046	GRANDIN	MW	13.2	12.4	72.0	0.41	4.00	5.50	1192	73	62.5	4.00	1065	4	2	3
1999	4016	GRANDIN	MW	13.3	12.3	71.2	0.42	4.00	5.00	1198	74	65.0	4.00	875	4	2	2
1998	4016	GRANDIN	MW	14.2	13.0	72.5	0.47	3.50	5.00	961	74	66.0	3.50	990	5	3	3
1997	4071	GRANDIN	MW	12.8	12.2	72.9		3.25	5.30	1130	69	65.0	3.25	1060	5	3	3
1996	4338	GRANDIN	PR		15.5			3.25	5.50	757	169	69.0					
		Average		13.4	13.1	72.2	0.43	3.60	5.26	1048	92	65.5	3.69	998	4.5	2.5	2.8

Ratings: 1-2=Excellent 3=Very Good 4=Good 5=Acceptable 6-7=Questionable 8-9=Unacceptable

5/24/01

## 1998-2000 YIELD AND AGRONOMIC DATA - AGRIPRO DATA

VARIETY	YIELD - BU/A <sup>4</sup>				TEST		FOLIAR			
					WT. LBS/BU	PROT. %	HEAD. <sup>3</sup> 1-9	HT. 1-9	LOD. 1-9	DIS. 1-9
	98	99	00	AVG						
IVAN	61.3	58.4	72.9	62.4	59.8	13.2	6.2	4.8	1.3	2.9
NORPRO	64.0	54.0	72.7	61.9	59.6	14.5	4.7	5.2	1.7	3.1
KNUDSON	63.3	57.3	67.7	61.9	60.7	14.0	4.3	5.8	2.2	3.0
MERCURY <sup>2</sup>	60.0	56.2	72.3	60.9	59.8	14.1	4.9	4.7	3.0	3.8
OXEN	61.2	56.7	62.1	59.7	58.4	14.3	3.0	5.4	4.0	6.2
HAMER	58.9	56.2	65.0	59.0	59.6	14.3	4.2	5.2	3.0	3.7
LARS	56.3	51.3	70.7	57.1	58.0	13.7	5.1	4.0	1.6	3.6
RUSS	59.8	50.0	63.5	56.9	59.2	14.1	3.3	6.9	4.9	5.6
HJ98	61.9	44.8	64.3	56.1	58.9	14.0	4.8	5.7	2.9	5.7
HAGAR	58.6	46.5	66.9	55.7	59.1	14.6	5.8	5.9	2.0	3.8
INGOT	57.5	47.1	62.3	54.6	62.3	14.6	1.8	7.3	5.3	6.6
GUNNER <sup>1</sup>	56.0	47.1	58.8	53.3	61.3	15.3	6.2	7.2	2.7	5.1
FORGE	57.5	43.3	62.3	53.2	60.4	14.5	1.8	6.3	5.1	6.8
MCVEY <sup>2</sup>	51.1	48.7	62.9	52.4	57.8	12.8	6.2	7.3	5.5	5.2
DANDY <sup>2</sup>	50.7	46.7	64.3	51.7	60.0	14.1	3.8	5.4	1.0	5.6
PARSHAL <sup>2</sup>	49.9	48.8	59.0	51.2	61.5	14.8	3.6	7.7	4.0	4.4
2375	51.6	47.3	56.5	50.9	60.1	14.4	3.5	6.2	6.0	7.4
NORA	51.6	42.0	52.8	48.3	58.8	15.4	3.9	4.4	2.2	6.6
MEAN	57.3	50.1	64.3	56	59.7	14.2	4.3	5.9	3.2	5.0
NO. OF LOCS.	5	4	2	11	13	9	11	3	3	6

<sup>1</sup>Gunner 1999 data estimated<sup>2</sup> Not tested in 1998, yield data adjusted for averages<sup>3</sup> Heading: 1 = early; Height: 1 = short; Lodging: 1 = no lodging; Foliar disease: 1 = no disease<sup>4</sup> Testing locations: North Dakota - Casselton, Park River; Minnesota - Breckenridge, Borup, Crookston

200100278

# **HARD RED SPRING WHEAT SUMMARY - 2000** Uniform Regional Data

## **KNUDSON VS. VERDE**

STATE	YIELD - BU/A		T.WT. - LBS/BU		HEADING - DAYS		HEIGHT - CM		LODGING - 1-9			
	LOCS	KNUDSON	VERDE	LOCS	KNUDSON	VERDE	LOCS	KNUDSON	VERDE	LOCS	KNUDSON	VERDE
MINNESOTA	3	47.9	43.7	3	59.6	58.0	3	23.0	25.0	3	84.0	84.0
NORTH DAKOTA	6	58.5	57.6	6	58.8	58.7	6	30.7	30.8	6	83.3	92.0
SOUTH DAKOTA	3	53.7	47.3	3	59.7	58.8	3	18.7	20.0	3	80.0	82.0
MONTANA	1	64.7	67.0	1	60.6	59.5	1	27.0	27.0	1	92.0	86.0
MEAN	13	55.4	52.7	13	59.3	58.6	13	25.9	26.7	13	83.3	87.4
										3	3.6	2.0

## **KNUDSON VS. KEENE**

STATE	YIELD - BU/A		T.WT. - LBS/BU		HEADING - DAYS		HEIGHT - CM		LODGING - 1-9			
	LOCS	KNUDSON	KEENE	LOCS	KNUDSON	KEENE	LOCS	KNUDSON	KEENE	LOCS	KNUDSON	KEENE
MINNESOTA	3	47.9	45.0	3	59.6	60.0	3	23.0	22.0	3	84.0	100.0
NORTH DAKOTA	6	58.5	51.0	6	58.8	59.4	6	30.7	30.0	6	83.3	102.7
SOUTH DAKOTA	3	53.7	45.4	3	59.7	58.2	3	18.7	19.0	3	80.0	100.3
MONTANA	1	64.7	63.4	1	60.6	61.1	1	27.0	26.0	1	92.0	113.0
MEAN	13	55.4	49.3	13	59.3	59.4	13	25.9	25.3	13	83.3	102.3
										3	3.6	3.3

## **KNUDSON VS. 2375**

STATE	YIELD - BU/A		T.WT. - LBS/BU		HEADING - DAYS		HEIGHT - CM		LODGING - 1-9			
	LOCS	KNUDSON	2375	LOCS	KNUDSON	2375	LOCS	KNUDSON	2375	LOCS	KNUDSON	2375
MINNESOTA	3	47.9	38.8	3	59.6	59.3	3	23.0	22.0	3	84.0	88.7
NORTH DAKOTA	6	58.5	51.3	6	58.8	59.4	6	30.7	28.3	6	83.3	90.2
SOUTH DAKOTA	3	53.7	43.4	3	59.7	58.6	3	18.7	17.3	3	80.0	80.3
MONTANA	1	64.7	70.3	1	60.6	62.1	1	27.0	22.0	1	92.0	96.0
MEAN	13	55.4	48.1	13	59.3	59.4	13	25.9	23.8	13	83.3	88.0
										3	3.6	4.4

200100278

**LEAF AND STEM RUST DATA - 2000**  
**UNIFORM REGIONAL DATA**

VARIETY	LEAF RUST			STEM RUST		
	FARGO	CARR.	LANG.	FARGO	CARR.	LANG.
	ND	ND	ND	ND	ND	ND
KNUDSON	5R	10R	4MR	4R, 10MRMS	0	0
HANNA	20MS-4S	10MS	4MR	20MRMSS	0	0
AP601 CL	5R	5R	10R	15R	0	0
VERDE	10MR	10MR-5MS	4MR	15S	0	0
KEENE	5R	10R	5R	0	0	0
2375	30S	40MS-20MR	20MS	0	0	0
BAART*	70S	80S	40S	50S	10S	20S

\*Susceptible Check

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

# EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S)  Monsanto Company	2. TEMPORARY DESIGNATION OR  N96-0144	3. VARIETY NAME  'Knudson'
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  700 Chesterfield Parkway North St. Louis, Missouri	5. TELEPHONE (include area code)  636-737-6089	6. FAX (include area code)  636-737-7250
7. PVPO NUMBER  200100278		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO  
If no, give name of country

10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☒ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

Please see following page.

## PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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***Exhibit E.***  
***Statement of the Basis of Applicant's Ownership***

The variety for which Plant Variety Protection is hereby sought was developed by Joe Smith, an employee of Agripro Wheat. By agreement between employees and Agripro Wheat all rights to any invention, discovery, or development made by the employee while employed by Agripro Wheat, were assigned to Agripro Wheat, with no rights of any kind pertaining to 'Knudson' being retained by the employees.

By contractual agreement the variety 'Knudson' was purchased from Agripro Wheat, a business unit of Advanta USA, Inc. in June of 1996 and is currently owned by Monsanto Company.